

**Northern West Siberian Onshore Gas, Assessment Unit 11740301**  
**Assessment Results Summary**

[MMBO, million barrels of oil. BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. MFS, minimum field size assessed (MMBO or BCFG). Prob., probability (including both geologic and accessibility probabilities) of at least one field equal to or greater than the MFS. Results shown are fully risked estimates. For gas fields, all liquids are included under the NGL (natural gas liquids) category. F95 represents a 95 percent chance of at least the amount tabulated. Other fractiles are defined similarly. Fractiles are additive under the assumption of perfect positive correlation. Shading indicates not applicable]

Field Type	MFS	Prob. (0-1)	Undiscovered Resources												Largest Undiscovered Field (MMBO or BCFG)			
			Oil (MMBO)				Gas (BCFG)				NGL (MMBNGL)				F95	F50	F5	Mean
			F95	F50	F5	Mean	F95	F50	F5	Mean	F95	F50	F5	Mean				
Oil Fields	20	1.00	446	1,213	2,449	1,304	2,307	6,544	14,193	7,172	128	382	902	430	101	214	496	244
Gas Fields	120						33,653	116,316	267,853	129,436	788	2,811	7,134	3,238	4,990	16,166	41,583	18,754
Total		1.00	446	1,213	2,449	1,304	35,960	122,859	282,047	136,608	916	3,193	8,036	3,668				

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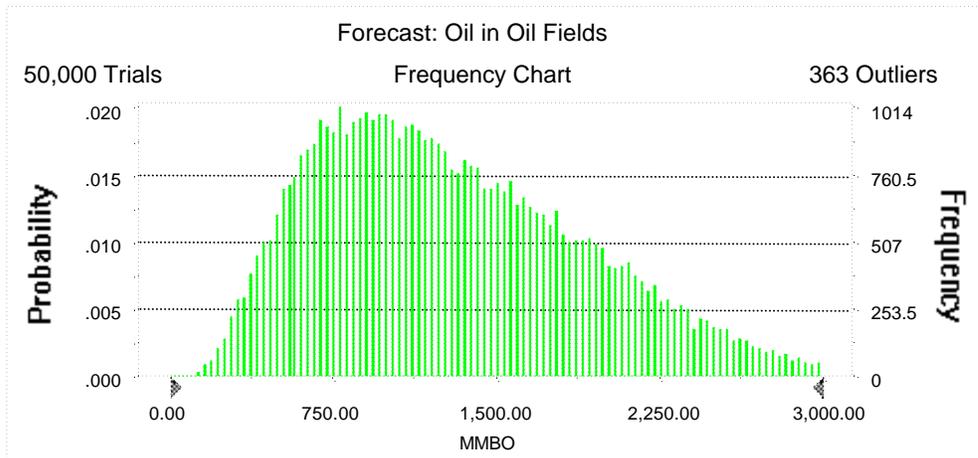
**Forecast: Oil in Oil Fields**

Summary:

Display range is from 0.00 to 3,000.00 MMBO  
Entire range is from 76.60 to 4,333.63 MMBO  
After 50,000 trials, the standard error of the mean is 2.78

Statistics:

	<u>Value</u>
Trials	50000
Mean	1,304.32
Median	1,212.58
Mode	---
Standard Deviation	621.13
Variance	385,807.81
Skewness	0.61
Kurtosis	2.92
Coefficient of Variability	0.48
Range Minimum	76.60
Range Maximum	4,333.63
Range Width	4,257.03
Mean Standard Error	2.78



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**Forecast: Oil in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	76.60
95%	445.99
90%	565.93
85%	658.35
80%	739.64
75%	817.65
70%	896.32
65%	972.90
60%	1,049.12
55%	1,130.12
50%	1,212.58
45%	1,300.17
40%	1,393.74
35%	1,495.43
30%	1,599.95
25%	1,716.36
20%	1,847.14
15%	1,994.54
10%	2,175.31
5%	2,448.79
0%	4,333.63

End of Forecast

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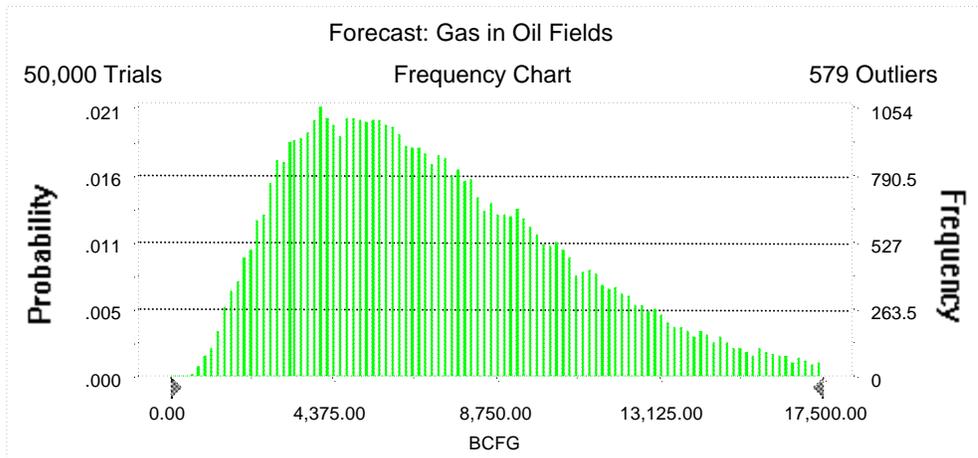
**Forecast: Gas in Oil Fields**

Summary:

Display range is from 0.00 to 17,500.00 BCFG  
 Entire range is from 301.17 to 29,537.09 BCFG  
 After 50,000 trials, the standard error of the mean is 16.60

Statistics:

	<u>Value</u>
Trials	50000
Mean	7,172.40
Median	6,543.67
Mode	---
Standard Deviation	3,711.09
Variance	13,772,192.05
Skewness	0.84
Kurtosis	3.61
Coefficient of Variability	0.52
Range Minimum	301.17
Range Maximum	29,537.09
Range Width	29,235.91
Mean Standard Error	16.60



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**Forecast: Gas in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	301.17
95%	2,306.99
90%	2,932.24
85%	3,424.84
80%	3,884.30
75%	4,310.51
70%	4,760.97
65%	5,191.00
60%	5,628.65
55%	6,072.97
50%	6,543.67
45%	7,032.97
40%	7,550.08
35%	8,107.93
30%	8,735.89
25%	9,418.32
20%	10,185.03
15%	11,107.11
10%	12,305.67
5%	14,193.37
0%	29,537.09

End of Forecast

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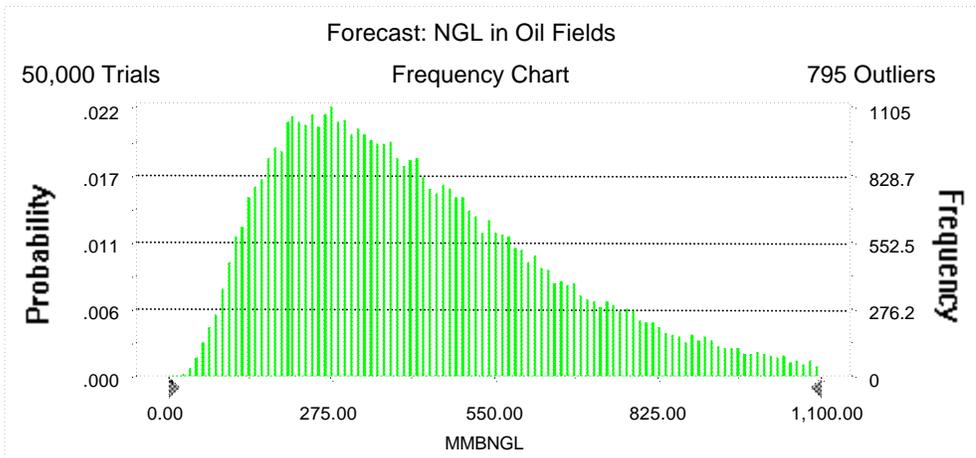
**Forecast: NGL in Oil Fields**

Summary:

Display range is from 0.00 to 1,100.00 MMBNGL  
Entire range is from 23.67 to 1,993.68 MMBNGL  
After 50,000 trials, the standard error of the mean is 1.09

Statistics:

	<u>Value</u>
Trials	50000
Mean	430.28
Median	381.76
Mode	---
Standard Deviation	243.39
Variance	59,239.51
Skewness	1.08
Kurtosis	4.37
Coefficient of Variability	0.57
Range Minimum	23.67
Range Maximum	1,993.68
Range Width	1,970.02
Mean Standard Error	1.09



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**Forecast: NGL in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	23.67
95%	127.97
90%	164.00
85%	194.00
80%	220.48
75%	246.97
70%	272.66
65%	298.45
60%	325.51
55%	353.14
50%	381.76
45%	412.53
40%	445.03
35%	480.89
30%	518.90
25%	563.98
20%	614.80
15%	679.79
10%	766.45
5%	901.93
0%	1,993.68

End of Forecast

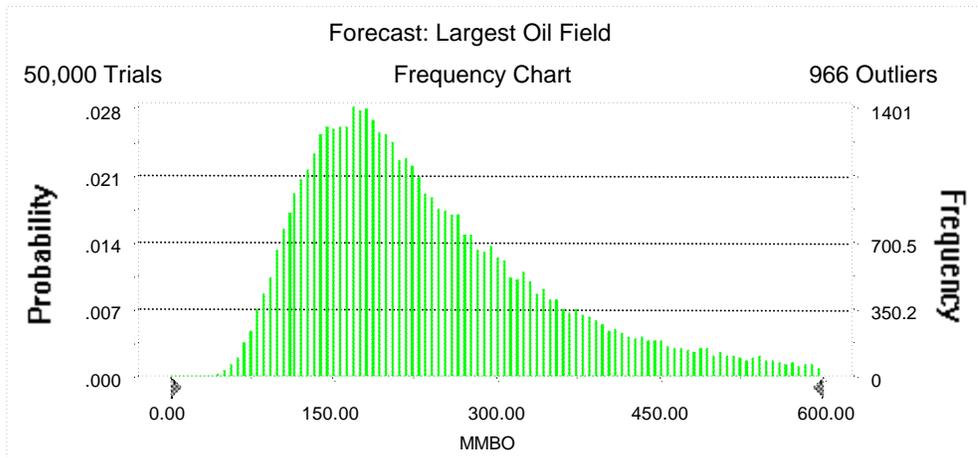
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**Forecast: Largest Oil Field**

Summary:

Display range is from 0.00 to 600.00 MMBO  
Entire range is from 26.62 to 749.88 MMBO  
After 50,000 trials, the standard error of the mean is 0.55

Statistics:	Value
Trials	50000
Mean	244.14
Median	214.40
Mode	---
Standard Deviation	122.49
Variance	15,002.70
Skewness	1.29
Kurtosis	4.79
Coefficient of Variability	0.50
Range Minimum	26.62
Range Maximum	749.88
Range Width	723.26
Mean Standard Error	0.55



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**Forecast: Largest Oil Field (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	26.62
95%	100.91
90%	118.76
85%	132.98
80%	145.37
75%	156.85
70%	168.37
65%	179.17
60%	189.98
55%	201.69
50%	214.40
45%	227.77
40%	242.90
35%	259.63
30%	278.68
25%	301.07
20%	327.91
15%	362.12
10%	411.55
5%	495.91
0%	749.88

End of Forecast

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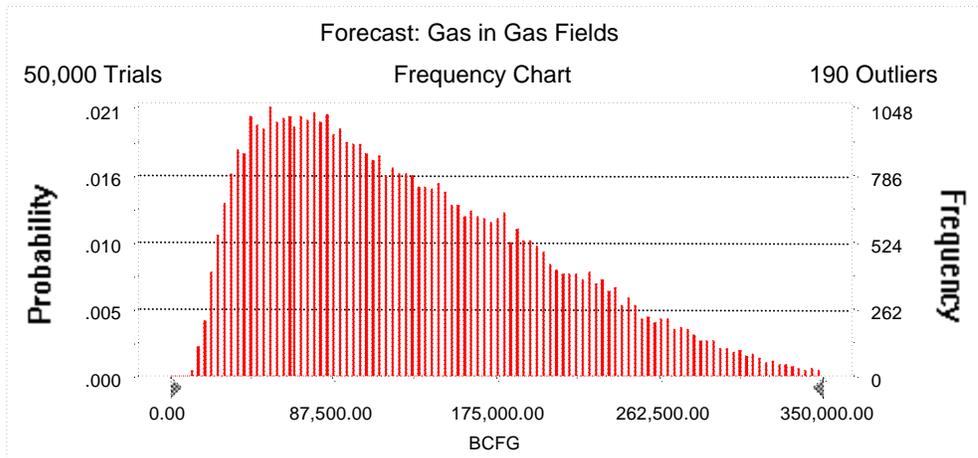
**Forecast: Gas in Gas Fields**

Summary:

Display range is from 0.00 to 350,000.00 BCFG  
 Entire range is from 9,227.76 to 490,792.60 BCFG  
 After 50,000 trials, the standard error of the mean is 329.17

Statistics:

	<u>Value</u>
Trials	50000
Mean	129,435.94
Median	116,315.59
Mode	---
Standard Deviation	73,605.07
Variance	5,417,705,742.64
Skewness	0.70
Kurtosis	2.89
Coefficient of Variability	0.57
Range Minimum	9,227.76
Range Maximum	490,792.60
Range Width	481,564.83
Mean Standard Error	329.17



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**Forecast: Gas in Gas Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	9,227.76
95%	33,652.62
90%	43,518.12
85%	52,442.43
80%	60,975.81
75%	69,797.69
70%	78,568.34
65%	87,174.76
60%	96,410.71
55%	105,974.53
50%	116,315.59
45%	127,213.01
40%	138,839.13
35%	150,634.67
30%	164,052.26
25%	178,280.44
20%	193,657.98
15%	212,651.79
10%	235,366.00
5%	267,853.31
0%	490,792.60

End of Forecast

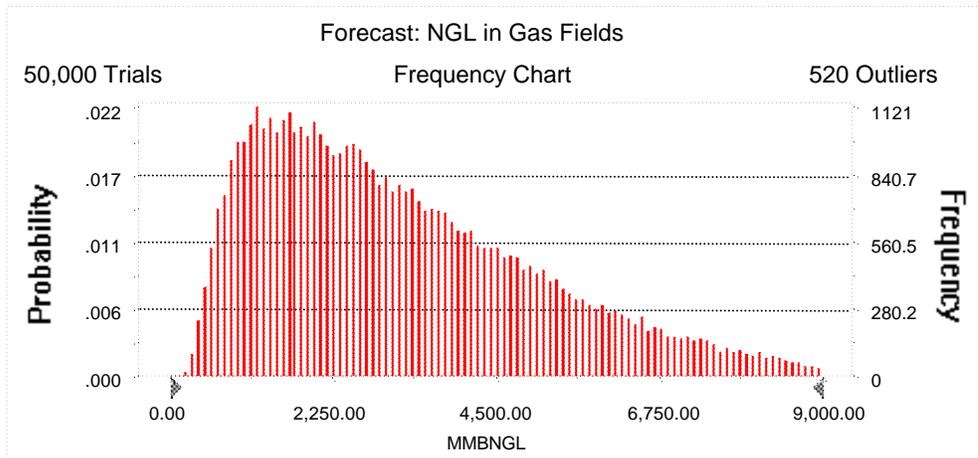
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**Forecast: NGL in Gas Fields**

Summary:

Display range is from 0.00 to 9,000.00 MMBNGL  
 Entire range is from 203.41 to 16,031.93 MMBNGL  
 After 50,000 trials, the standard error of the mean is 8.95

Statistics:	<u>Value</u>
Trials	50000
Mean	3,238.16
Median	2,811.31
Mode	---
Standard Deviation	2,001.82
Variance	4,007,293.00
Skewness	0.97
Kurtosis	3.77
Coefficient of Variability	0.62
Range Minimum	203.41
Range Maximum	16,031.93
Range Width	15,828.52
Mean Standard Error	8.95



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**Forecast: NGL in Gas Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	203.41
95%	787.86
90%	1,028.09
85%	1,240.31
80%	1,452.52
75%	1,663.69
70%	1,880.51
65%	2,098.14
60%	2,331.89
55%	2,565.33
50%	2,811.31
45%	3,085.47
40%	3,373.06
35%	3,684.60
30%	4,027.61
25%	4,416.86
20%	4,853.23
15%	5,371.41
10%	6,080.97
5%	7,133.91
0%	16,031.93

End of Forecast

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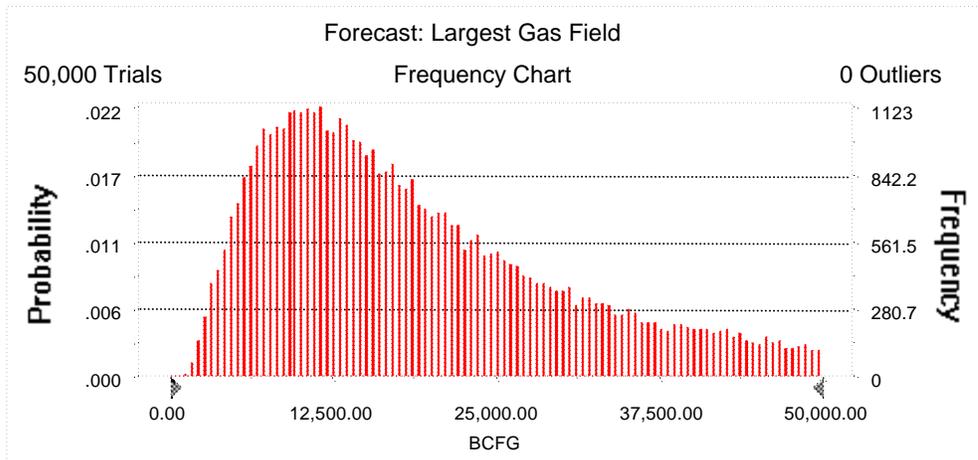
**Forecast: Largest Gas Field**

Summary:

Display range is from 0.00 to 50,000.00 BCFG  
 Entire range is from 927.73 to 49,997.49 BCFG  
 After 50,000 trials, the standard error of the mean is 49.58

Statistics:

	<u>Value</u>
Trials	50000
Mean	18,754.49
Median	16,166.30
Mode	---
Standard Deviation	11,086.73
Variance	122,915,568.71
Skewness	0.82
Kurtosis	2.92
Coefficient of Variability	0.59
Range Minimum	927.73
Range Maximum	49,997.49
Range Width	49,069.76
Mean Standard Error	49.58



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**Forecast: Largest Gas Field (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	927.73
95%	4,989.98
90%	6,524.75
85%	7,762.04
80%	8,970.91
75%	10,115.30
70%	11,232.15
65%	12,387.17
60%	13,578.12
55%	14,824.06
50%	16,166.30
45%	17,614.05
40%	19,201.68
35%	21,000.43
30%	23,020.03
25%	25,308.27
20%	28,058.87
15%	31,499.69
10%	35,743.80
5%	41,583.20
0%	49,997.49

End of Forecast

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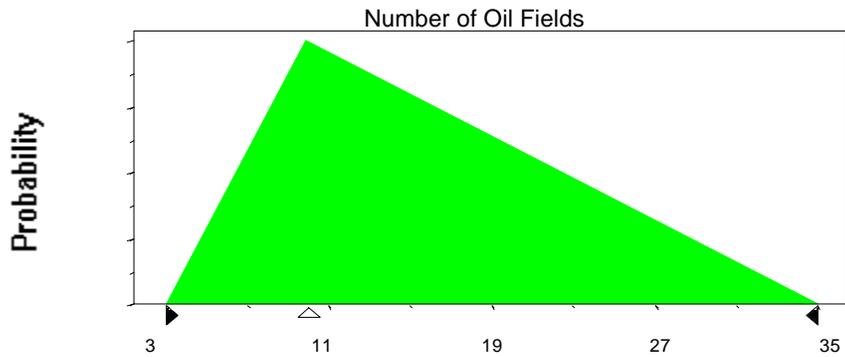
**Assumptions**

**Assumption: Number of Oil Fields**

Triangular distribution with parameters:

Minimum	3
Likeliest	10
Maximum	35

Selected range is from 3 to 35  
Mean value in simulation was 16



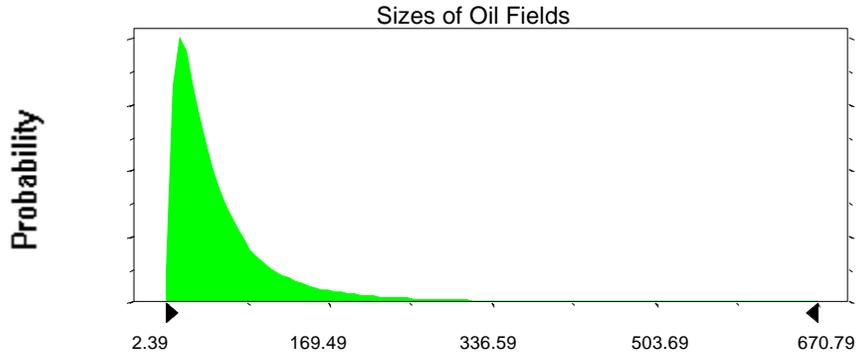
**Assumption: Sizes of Oil Fields**

Lognormal distribution with parameters:		Shifted parameters
Mean	62.21	82.21
Standard Deviation	74.11	74.11

Selected range is from 0.00 to 730.00                      20.00 to 750.00  
Mean value in simulation was 61.39                                      81.39

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Assumption: Sizes of Oil Fields (cont'd)



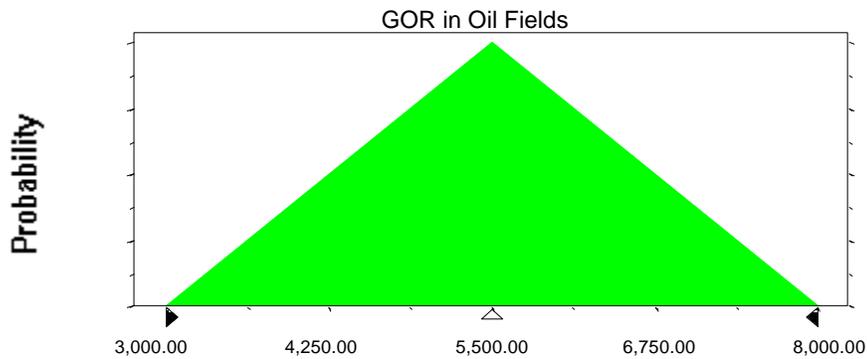
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	3,000.00
Likeliest	5,500.00
Maximum	8,000.00

Selected range is from 3,000.00 to 8,000.00

Mean value in simulation was 5,499.66



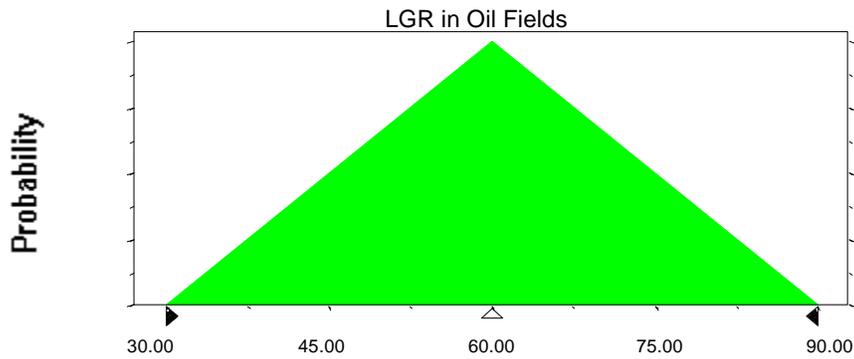
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**Assumption: LGR in Oil Fields**

Triangular distribution with parameters:

Minimum	30.00
Likeliest	60.00
Maximum	90.00

Selected range is from 30.00 to 90.00  
Mean value in simulation was 60.00



**Assumption: Number of Gas Fields**

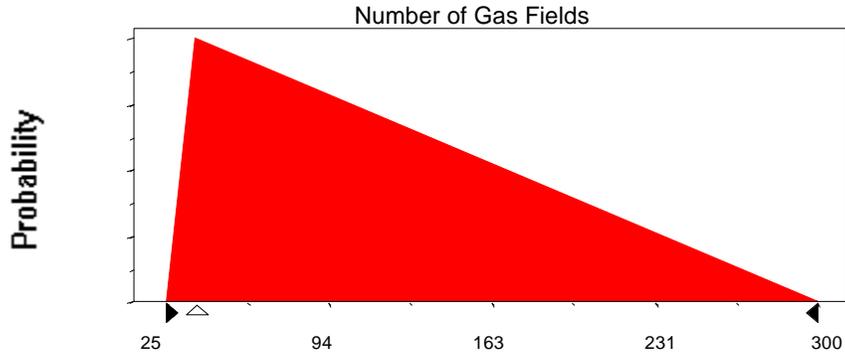
Triangular distribution with parameters:

Minimum	25
Likeliest	37
Maximum	300

Selected range is from 25 to 300  
Mean value in simulation was 121

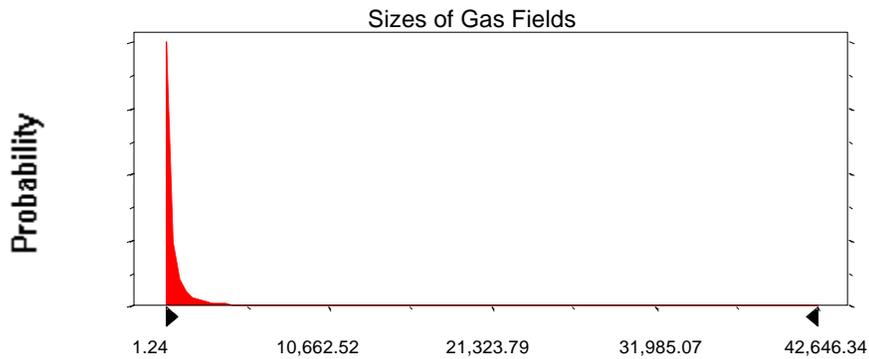
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**Assumption: Number of Gas Fields (cont'd)**



**Assumption: Sizes of Gas Fields**

Lognormal distribution with parameters:		Shifted parameters
Mean	1,046.70	1,166.70
Standard Deviation	4,646.98	4,646.98
Selected range is from 0.00 to 49,880.00		120.00 to 50,000.00
Mean value in simulation was 936.84		1,056.84



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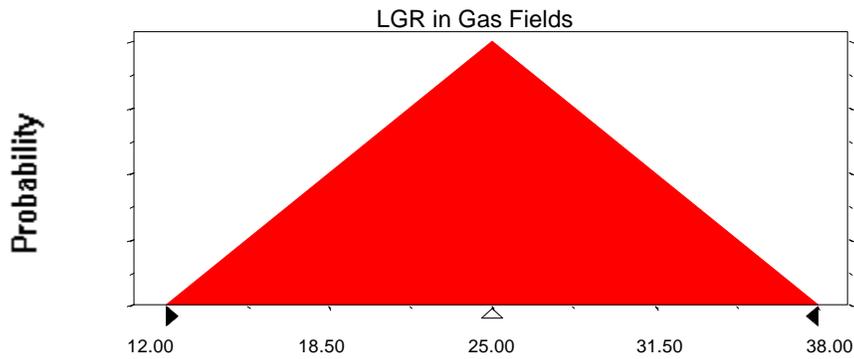
**Assumption: LGR in Gas Fields**

Triangular distribution with parameters:

Minimum	12.00
Likeliest	25.00
Maximum	38.00

Selected range is from 12.00 to 38.00

Mean value in simulation was 25.03



End of Assumptions

Simulation started on 12/13/99 at 15:09:60  
Simulation stopped on 12/13/99 at 16:25:12